

STATEMENT OF BASIS for Rutgers Health Science Campus - Newark

TITLE V OPERATING PERMIT RENEWAL

Program Interest (PI): 07726 / Permit Activity Number: BOP160001

I. FACILITY INFORMATION

Rutgers Health Science Campus - Newark is located at 65 Bergen St., Newark, Essex County, NJ 07107 and is New Jersey's university of the health sciences. The facility is owned and operated by Rutgers, The State University of NJ.

The facility is classified as a major facility based on its potential to emit 235 tons per year of nitrogen oxides (NO_x), 188 tons per year of carbon monoxide and 38 tons per year of volatile organic compound (VOC) to the atmosphere.

This permit does not contain any hazardous air pollutants.

II. AREA ATTAINMENT CLASSIFICATION

The Federal Clean Air Act (CAA) sets National Ambient Air Quality Standards (NAAQS) for six common air pollutants. These commonly found air pollutants (also known as "criteria pollutants") are particulate matter, ground-level ozone, carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and lead. The US Environmental Protection Agency (USEPA) also classifies areas as "attainment" or "nonattainment" for each criteria pollutant, based on the magnitude of an area's problem. Nonattainment classifications are used to specify what air pollution reduction measures an area must adopt, and when the area must reach attainment. Currently, the entire State of New Jersey is designated as nonattainment for the 8-hour ozone NAAQS. New Jersey is designated attainment for all other pollutants. For nonattainment classification refer to <http://www3.epa.gov/airquality/greenbook/multipol.html>

III. BACKGROUND AND HISTORY

The equipment that emits air contaminants from this facility include: 3 cogeneration turbines, 18 boilers, 3 duct burners and 16 emergency generators.

This permit also incorporates two general operating permits (Activity # BOP160002 & BOP160003) that the facility obtained for an emergency natural gas generator with a heat input rate of 2.6 MMBTU/hr (HHV) and an emergency diesel generator with a heat input rate of 19.2 MMBTU/hr (HHV). These generators are permitted to operate up to 100 hours per year of fuel oil for testing and maintenance. The total increase in facility emissions due to the addition of these new generators are 2.3 tons of NO_x, 0.4 tons of CO, 0.4 tons of VOC and 171.7 tons of CO₂(e) per year.

Table 1 - Operating Permit Revision History (located at the end of this document) provides a summary of all the changes that have been incorporated into the operating permit through seven-day notice changes, administrative amendments, minor modifications, or significant modifications since the approval of the initial operating permit or the most recent renewal thereof. Please refer to the attached explanation sheet for the structure and configuration of conditions of approval, included in the Facility Specific Requirements section of this permit.

IV. BASIS FOR MONITORING AND RECORDKEEPING REQUIREMENTS

The facility's operating permit includes monitoring, recordkeeping and reporting requirements that are sufficient to demonstrate the facility's continued compliance with the applicable requirements consistent with the following:

1. Provisions to implement the testing and monitoring requirements of N.J.A.C. 7:27-22.18, the recordkeeping and reporting requirements of N.J.A.C. 7:27-22.19, and all emissions monitoring and analysis procedures or compliance assurance methods required under the applicable requirements, including any procedures and methods promulgated pursuant to 40 CFR 64; and
2. Where the applicable requirement does not require direct periodic monitoring of emissions, the Department requires periodic monitoring of surrogate parameters sufficient to yield reliable data from the relevant time period that are representative of the facility's compliance with the permit. Such monitoring requirements include monitoring of fuel consumption, flue gas recirculation rate

STATEMENT OF BASIS for Rutgers Health Science Campus - Newark

TITLE V OPERATING PERMIT RENEWAL

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(for boilers), hours of operation, fuel sulfur content, temperature, pressure drop, process rates and continuous NOx, CO and oxygen levels (for each combustion turbine/burner).

3. In situations where the underlying applicable requirement did not specify any periodic testing or monitoring, the following factors were considered in the evaluation and determination of the appropriate methodology for compliance demonstration for each emission unit:
- Pollutant's potential impact on public health and environment.
 - Emission unit and control device (older, less reliable equipment generally require more monitoring to ensure ongoing compliance).
 - Compliance history and margin of compliance.
 - Emissions variability and process stability (emissions units with highly variable process rates or materials generally require more monitoring to ensure ongoing compliance)
 - Quantity of emissions (emissions units that will have more impact on the environment generally require more monitoring to ensure ongoing compliance).

V. APPLICABLE STATE AND FEDERAL RULES

The facility is subject to New Jersey Air Pollution Control Regulations, codified in N.J.A.C. 7:27-1 through 34, as applicable. A complete text of these regulations is available at:

<http://www.nj.gov/dep/aqm/rules27.html>

The facility is also subject to Federal regulations listed below.

NSPS Subpart A:	General Provisions
NSPS Subpart DC:	Standards of Performance for Small Industrial-Commercial-Institutional Stream Generating Units
NSPS Subpart GG:	Standards of Performance for Stationary Gas Turbines
NSPS Subpart IIII:	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
NSPS Subpart JJJJ:	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

The Greenhouse Gas (GHG) emissions from this facility are 201,479 TPY CO₂e and the GHG emissions increase are less than 75,000 TPY CO₂e.

VI. FACILITY'S COMPLIANCE STATUS

The Responsible Official at the facility has certified that the facility currently meets all applicable requirements of the Federal Clean Air Act and the New Jersey Air Pollution Control Act. Based on this certification, the Department's evaluation of the information included in the facility's application, and a review of the facility's compliance status, the Department has concluded that this air pollution control operating permit should be approved.

The facility has submitted a timely and complete application to renew their operating permit and an application shield is in effect.

This operating permit also includes a permit shield, pursuant to the provisions of N.J.A.C. 7:27-22.17. A permit shield provides that compliance with the relevant conditions of the operating permit shall be deemed compliance with the specific applicable requirements that are in effect on the date of issuance of the draft operating permit, and which form the basis for the conditions in the operating permit.

STATEMENT OF BASIS for Rutgers Health Science Campus - Newark

TITLE V OPERATING PERMIT RENEWAL

Program Interest (PI): 07726 / Permit Activity Number: BOP160001

Also, prior to the expiration of the five-year period, the facility will be required to apply for a renewal of this operating permit, at which time the Department will evaluate the facility and issue a public notice with its findings.

VII. EXEMPT ACTIVITIES

The facility's operating permit does not include exempt activities such as office and interior maintenance activities, maintenance shop activities, food preparation facilities, cafeterias and dining rooms, etc. A complete list of exempt activities, as allowed by the Operating Permit rule, can be found at N.J.A.C. 7:27-22.1.

Table 1 – Operating Permit Revision History

Permit Activity Number	Type of Revision	Description of Revision	Final Action Date
BOP160002	General Operating Permit	2.6 MMBTU/hr (HHV) Emerg. Gen. (200 kW) Natural Gas, 100 hrs/yr Emission Unit U4	7/27/2016
BOP160003	General Operating Permit	19.2 MMBTU/hr (HHV) Emerg. Gen. (2000 kW) Diesel fuel, 100 hrs/yr Emission Unit U5	7/15/2016
BOP150001	Administrative Amendment	Change the Responsible Official for this facility from Mr. Bruce Fehn to Mr. Antonio Calcado.	1/6/2016
BOP130004	Significant Modification	<p>IS Inventory</p> <ul style="list-style-type: none"> - Combined IS7, IS9, IS10, IS11 and IS32 into a single IS Source/Group description: "IS7: Distillate Fuel Oil tanks <=10,000 gals vapor pressure < 0.02 psia" - Combine IS37, IS38, IS39, IS40 into a single IS Source/Group description: "IS37: Distillate Fuel Oil tanks > 10,000 gals vapor pressure < 0.02 psia" - Combine IS41 and IS42 into a single IS Source/Group description: "IS41 Diesel fire pumps < 1 MMBTU/hr max. heat input" <p>Add U2 – (8) Natural gas boilers < 5 MMBTU/hr (combined U101, U201, U401, U601, U801, U1001, U2701 and U3201 into one emission unit)</p> <p>Add U3 – (13) Emergency Diesel Generators (combined U402, U2105, U2106, U2125, U2209, U4001, U4301, U4601, U4701, U4801, U5007, U5010 and U5011 into one emission unit)</p> <ul style="list-style-type: none"> - Delete U2801, E2801, PT2801 (This boiler is now part of University Hospital) - Delete U2108 and U2109 Cleaver Brooks boilers operating scenarios burning oil - Add U1 - 3 Cogen Turbines (ea. 56 MMBtu/hr) & 3 Duct Burners (ea. 30 MMBtu/hr) firing nat gas, #2 oil (b.u. turbines only) & 2 Boilers (101.2 and 112 MMBtu/hr). <p>Delete GR6 (combined maximum tpy for Cogen Turbines, duct burners and boilers) and include the combined tons/yr requirements in U1 OS Summary</p> <p>Delete GR8 (annual fuel cap for 9 boilers) and include in U2 OS Summary.</p> <p>Revise and Update U1 compliance plan requirements based on combining previous emission units U2107, U2108 and U2109, including updating stack test requirements, reducing CO and NOx tons/yr monitoring and recordkeeping calculation to any 12 consecutive months, adding VOC tons/yr monitoring and recordkeeping requirements.</p> <p>Incorporate General Operating Permit GOP-003 for U6004, E6004, 2000 kW Diesel Emergency Generator.</p> <p>Update Boiler annual combustion adjustment compliance plan requirements</p>	5/4/2015

Permit Activity Number	Type of Revision	Description of Revision	Final Action Date
BOP140001	General Operating Permit	16.8 MMBTU/hr (HHV) Emerg. Gen. (2000 kW) Diesel fuel, 100 hrs/yr Emission Unit U6004	7/8/2014

FACILITY NAME (FACILITY ID NUMBER)

BOP050001

Activity Number
(assigned by the
Department)

New Jersey Department of Environmental Protection Facility Specific Requirements

Emission unit number
(assigned by the
facility)

Brief description of emission unit

Emission Unit: U1 25 MM BTU/hour Boiler burning Fuel Oil and Natural Gas
Operating Scenario: OS Summary OR OSXX Boiler burning Fuel Oil

OS Summary lists all rules and requirements that apply to an emission unit, regardless of operating scenarios. Emission unit may contain one or more pieces of equipment and the corresponding operating scenarios

OSXX denotes the operating scenario number and lists the rules and requirements that apply to a particular scenario. An operating scenario represents various ways (or scenarios) a piece of equipment can operate.

Records to be kept

Submittal
requirement

Item
Number

Description of applicable
requirement

Air contaminants

Monitoring method to
ensure compliance

Actions to be
taken by the
facility

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Conduct a comprehensive stack test at emission point PTXX at least 18 months prior to the expiration of the approved operating permit to demonstrate compliance with the <u>CO, NOx, TSP and VOC</u> emission limits.[N.J.A.C. 7:27-22.16(e)]	Other: <u>Stack emission testing.</u> Stack test shall be conducted for CO, NOx, TSP, and VOC emissions (add language as needed). Based on any 60-minute period. [N.J.A.C. 7:27-22.16(e)]	Other: <u>Stack test results.</u> [N.J.A.C. 7:27-22.16(e)]	Stack Test - <u>Submit a protocol, conduct stack tests, submit results</u> per the approved schedule. <u>Submit a stack test protocol to the Emission Measurement Section</u> at PO Box 437, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. [N.J.A.C. 7:27-22.18(e)] and [N.J.A.C. 7:27-22.18(h)]

Rule citation (subchapter, section, and paragraph) for the applicable requirement

Rule citation for the monitoring requirement

Rule citation for the recordkeeping requirement

Rule citations for the submittal/action requirement